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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,924	09/05/2003	Norbert Huber	56/414	8360

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EXAMINER
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DESCHERE, ANDREW M

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/656,924

Applicant(s)

HUBER ET AL.

Examiner

Andrew M. Deschere

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/29/03; 1/12/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. Paragraph 14 of the specification (on page 4) states, "A conventional drive is represented schematically in FIG. 1." See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claim 1 objected to because of the following informalities: lines 5-6 of the claim states "wherein said first constant current source that limits a charging current of said intermediate circuit capacitor". This phrase is grammatically incorrect. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-7 rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent 6,856,137 ("Roden").

Roden discloses a ground fault detection system with two constant DC feed lines, +DC link and -DC link (Figure 5). An intermediate capacitor C1 is connected between these feed lines, and a controller 800 controls the flow of current in the system. A current sensor 2000 is located on only one of the feed lines (the +DC link), and generates an output to controller 800. When the sensed current exceeds a predetermined limit, the switches of switching mechanism 400 (found in Figure 5, reference number taken from Figure 1) are interrupted (column 8, lines 5-18). Switches Q1, Q3, and Q5 are provided for the +DC link, and switches Q2, Q4, and Q6 for the -DC link.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Roden and United States Patent 6,166,924 ("Assow"). Roden teaches a system with two constant DC feed lines, including an intermediate capacitor, a single current sensor, and a control device, but does not disclose the use of a recovery diode in-between the feed lines. Assow discloses a valley-fill circuit 10 (Figure 1), disposed in-between two DC feed lines. The valley-fill circuit includes diodes that connect between the two DC feed lines. It would have been obvious to one of

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ordinary skill in the art at the time of the invention to include such a valley-fill circuit in the invention of Roden to stabilize the current output by the system.

Claims 9 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Roden and United States Patent 4,507,724 ("Glennon"). Roden teaches a system with two constant DC feed lines, including an intermediate capacitor, a single current sensor, and a control device, but does not disclose the use of optically coupled, separate driver stages for the feed lines. Glennon teaches the use of optically coupled, separate base drives 38 and 40 (Figures 2 and 3) to control the enabling of feed lines 17a and 17b (column 3, lines 59-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to include separate base drives that are optically coupled to prevent problems of impedance matching.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

United States Patent 6,275,393 (Baudelot et al.) concerns a pre-charging circuit for an intermediate capacitor in a power converter.

United States Patent Application Publication 2005/0168897 (Komulainen) concerns the charging of a filter capacitor in the intermediate circuit of a frequency converter.

United States Patent 5,953,490 (Wiklund et al.) utilizes optically coupled driver stages in a motor controller.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Deschere whose telephone number is (571) 272-8391. The examiner can normally be reached on M-F 8:30-6:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMD



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